REMARKS

Claims 1-45 are pending in the application. Claims 1-45 stand rejected. Claims 1 and 27 have been amended. In view of the amendments to the claims and the following remarks, Applicant respectfully requests that the rejections be withdrawn and the claims allowed.

Claims 1-45 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. The rejection is respectfully traversed.

According to the Office Action, claims 1-45 contain "subject matter that was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention." Office Action, p. 2. However, Applicant respectfully submits that the claims do not recite any element or structure that requires further disclosure in order to enable one skilled in the art to make or use the invention.

As addressed in the Office Action, the collection and generation of statistical data critical to the performance of a multi-storage element storage system is a common function in conventional storage systems. Office Action, p. 2; Application, ¶ [0004]. However, real-time sampling and display of the statistical data is not performed by conventional systems. Application, ¶ [0005]. Although "conventional storage systems are not precluded from real-time sampling," real-time statistical analysis is not performed because of generally high processing overhead. Application, ¶ [0004].

Claim 1 recites a storage system that includes a storage controller with a "means for processing host commands" configured to also record "statistics associated with a processing of said host commands." A histogram showing the recorded statistics is also generated and updated each time a host command is processed, i.e., in real time.

As explained above, conventional storage systems do not record statistics each time a host command is processed. Statistics, if generated, are not collected in real-time by conventional storage systems. Application, ¶ [0005]. However, the collection of real-time statistics by a storage system does not require the disclosure of additional structures or devices – it simply reflects the inventive conception of non-obviously combining the real-time collection of statistics with the operation of a storage system.

Similarly, claim 27, which recites "a method for collecting and generating statistical data for a storage system," reflects the non-obvious method of operating a storage system with real-time collection and display of statistics. No additional disclosure is necessary to enable one of skill in the art to perform real-time statistical collection and display during storage system operations – the patentability of the present invention resides in performing the statistical collection and display in real time, not in the manner in which it is accomplished. One of ordinary skill in the art would have no problem using prior art methods to implement a statistics collection and display system in real time.

Claims 2-26 and 28-45 depend from claims 1 and 27, respectfully, and also do not require additional disclosure to enable one skilled in the art to make or use the invention as recited by these claims.

For at least these reasons, Applicant respectfully requests the rejection be withdrawn.

Claims 1-45 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,405,282 to Lam et al. ("Lam"), further in view of U.S. Patent No. 5,729,397 to Ottesen et al. ("Ottesen"). The rejection is respectfully traversed.

As explained above, claim 1 recites a storage system that includes a storage controller with a "means for processing host commands" configured to also record "statistics associated with a processing of said host commands." A histogram showing the recorded statistics is also generated and updated in real time each time a host command is processed. Because neither Lam nor Ottesen, individually or combined, show at least these elements of claim 1, claim 1 is allowable over the combination of Lam and Ottesen.

Lam relates to a method for analyzing disk seek times in a disk array storage device. Lam, Abstract. In addition to teaching the operation of a disk array storage device, Lam also teaches that statistics relating to the access activity for each disk are accumulated over an interval of time. Lam, col. 9, lines 53-67. However, Lam fails to teach the real-time generating and updating of "a histogram configured to show the recorded statistics," as recited by claim 1. For at least this reason, Lam fails to teach all of the recited elements and limitations of claim 1.

Ottesen, relied upon by the Examiner to show that the recorded statistics may be stored in a memory, Office Action, p. 3, also fails to show that the recorded statistics are included in a histogram for real-time visualization. Thus, neither Lam nor Ottesen, individually or combined, render claim 1 unpatentable.

Claim 27, which recites "a method for collecting and generating statistical data for a storage system," also includes the act of "displaying the operational statistics in a histogram that is updated each time the operational statistics are collected, such that the statistics may be viewed in real time." For at least the same reasons as explained above, the combination of Lam and Ottesen fail to render claim 27 unpatentable. The combination of Lam and Ottesen fail to teach or suggest the real-time display of operational statistics of a storage system in a histogram.

Because the combination of Lam and Ottesen fail to teach or suggest each element of claims 1 and 27, claims 1 and 27 are allowable over Lam and Ottesen. Claims 2-26 and 28-45, which depend from claims 1 and 27, respectively, are also each allowable for at least the same reason. Applicant respectfully requests the rejection be withdrawn.

In view of the above amendment, Applicant believes the pending application is in condition for allowance.

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